

Atty Docket: 4081-01701  
(09/660,450US1)

Patent

## AMENDMENTS TO THE CLAIMS

### Listing Of Claims:

1. (Currently Amended) A linear alpha-olefin dimer made by a process comprising coupling of an initial olefin and a second olefin, wherein a product of the process comprises from about 30 to about 85 weight percent linear alpha-olefin dimers and about equal to or greater than 20 weight percent of the initial and second olefins are converted to linear alpha-olefin dimers.
2. (Currently Amended) The dimer of claim 1 made by ~~said-the~~ process wherein ~~said-the~~ coupling is a head to head coupling accomplished by a 1,2 insertion in the initial olefin followed by a 2,1 insertion in the second olefin resulting in a complex which beta-eliminates to produce ~~said~~ the linear dimer.
3. (Currently Amended) The dimer of claim 2 made by ~~said-the~~ process wherein ~~said-the~~ coupling further results in byproducts comprising methyl-branched olefin dimers.
4. (Currently Amended) The dimer of claim 3 made by ~~said-the~~ process wherein ~~said-the~~ byproducts of ~~said-the~~ process further comprise olefin trimers.
5. (Currently Amended) The dimer of claim 2 made by ~~said-the~~ process wherein ~~said-the~~ byproducts products of ~~said-the~~ process comprise less than about five weight percent vinylidene or tri-substituted olefins.

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6. (Currently Amended) The dimer of claim 2 made by ~~said-the~~ process wherein ~~said-the~~ coupling further results in byproducts comprising vinylidene.

7. (Currently Amended) The dimer of claim 1 made by ~~said-the~~ process wherein ~~said-the~~ initial olefin is butene and ~~said-the~~ second olefin is butene and ~~said-the~~ dimer is a 1-butene dimer.

8. (Currently Amended) The dimer of claim 1 made by ~~said-the~~ process wherein ~~said-the~~ initial olefin and ~~said-the~~ second olefin are selected from the group consisting of alpha olefins consisting of about five to about eight carbon atoms.

9. (Currently Amended) The dimer of claim 1 made by ~~said-the~~ process wherein ~~said-the~~ initial olefin and ~~said-the~~ second olefin are selected from the group consisting of alpha olefins consisting of about nine or more carbon atoms.

10-18 (Canceled)

19. (Original) A feedstock for the production of oxoalcohols comprising the dimer of claim 1.

20-28 (Canceled)

29. (New) The dimer of claim 1 wherein the product comprises equal to or greater than about 60 weight percent linear alpha olefin dimers.

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30. (New) The dimer of claim 1 wherein the product comprises less than about five weight percent vinylidene or tri-substituted olefins.
31. (New) A linear alpha-olefin dimer product made by a process comprising coupling of an initial olefin and a second olefin, wherein the product comprises less than about five weight percent vinylidene or tri-substituted olefins and about equal to or greater than 20 weight percent of the initial and second olefins are converted to linear alpha-olefin dimers.
32. (New) The dimer of claim 31 wherein the initial olefin is butene and the second olefin is butene and the dimer is a 1-butene dimer.
33. (New) The dimer of claim 31 wherein the initial olefin and the second olefin are selected from the group consisting of alpha olefins consisting of about five to about eight carbon atoms.
34. (New) The dimer of claim 31 wherein the initial olefin and the second olefin are selected from the group consisting of alpha olefins consisting of about nine or more carbon atoms.
35. (New) The dimer of claim 31 wherein the product comprises from about 30 to about 85 weight percent linear alpha-olefin dimers.
36. (New) A reaction product of a head to head coupling of a 1,2 insertion of a first olefin having at least 4 carbon atoms with a 2,1 insertion of a second olefin having at least 4 carbon

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atoms, the product comprising linear alpha-olefin dimers and less than about 5 weight percent vinylidene or tri-substituted olefins and wherein about equal to or greater than 20 weight percent of the first and second olefins are converted to the linear alpha-olefin dimers.

37. (New) The reaction product of claim 29 wherein the first and second olefins are butene.
38. (New) The reaction product of claim 29 wherein the first and second olefins have from 5 to about 8 carbon atoms.
39. (New) The reaction product of claim 29 wherein the first and second olefins have 9 or more carbon atoms.
40. (New) The reaction product of claim 29 comprising from about 30 percent to about 85 percent linear alpha-olefin dimers.
41. (New) The reaction product of claim 29 comprising equal to or greater than about 60 percent linear alpha-olefin dimers.
42. (New) The reaction product of claim 29 comprising equal to or greater than about 70 percent linear alpha-olefin dimers.
43. (New) A reaction product of a head to head coupling of a 1,2 insertion of a first olefin having at least 4 carbon atoms with a 2,1 insertion of a second olefin having at least 4 carbon

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atoms, the product comprising from about 30 to about 85 weight percent linear alpha-olefin dimers and wherein about equal to or greater than 20 weight percent of the first and second olefins are converted to the linear alpha-olefin dimers.